

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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***Ex parte*** KARL HIRSCHAUER, FRED DURAY and JOSEPH M. DOERING

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Appeal No. 1999-2590  
Application 08/618,120

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ON BRIEF

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Before FLEMING, RUGGIERO and BLANKENSHIP, ***Administrative Patent Judges.***

FLEMING, ***Administrative Patent Judge.***

**DECISION ON APPEAL**

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-8, all the pending claims.

The instant invention relates to the use of wire screens ultrasonically welded or otherwise attached to individual module block LED arrays for the purpose of contrast

enhancement. Appellants' specification (specification), page 1, lines 3-6.

The presence of the rectangular wire screen directly over the LEDs blocks much of the incoming ambient light and filters the off-peak frequencies thereby enhancing the color purity of the light output. Specification, page 5, lines 1-4. Further, the presence of the rectangular wire screen enhances the contrast of the light output from a device and reduces the glare. Specification, page 5, lines 4-6. Additionally, the rectangular wire screen serves as a radiator which cools the LEDs. Specification, page 5, lines 7-8. Finally, the metallic character of the wires of the rectangular wire screen provides the opportunity for EMI reduction if an electrical path is provided to ground. Specification, page 5, lines 9-11. Each module block LED array can also be individually removed from the display for service without the need for removing a large screen. Specification, page 5, lines 17-19. In sum, the individual dye-cut pieces of screen achieve the advantages of contrast enhancement, glare reduction, color purity, lack of distortion in the display image, heat dissipation and the possibility of EMI reduction.

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Specification, page 3, lines 23-26. Moreover, the individual dye-cut pieces of screen are relatively simple to install and do not substantially increase the difficulty of maintenance of the resulting display. Specification, page 3, lines 27-29.

Appellants' independent claim 1, reproduced below, is representative of the invention:

1. An LED display device comprising:  
a plurality of module block LED arrays, each of said module LED arrays including at least one LED on a selected face thereof, and

substantially each of said module block LED arrays including a respective individual wire screen attached to said selected face immediately over said at least one LED whereby light emanating from said at least one LED passes through said wire screen.

In rejecting Appellants' claims, the Examiner relies on Appellants' admitted prior art and the following references:

Hobbins et al. (Hobbins)	4,701,801	Oct.
20, 1987		
Clarke et al. (Clarke)	5,139,850	Aug. 18,
1992		
Shetty et al. (Shetty)	5,443,510	Aug. 22,

1995        Claims 1-4 and 6-8 stand rejected under 35 U.S.C. § 103(a) as being obvious over the admitted prior art and Hobbins. Claim 5 stands rejected under 35 U.S.C. § 103(a) as being obvious over the admitted prior art, Hobbins and Shetty.

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Rather than repeat the arguments of Appellants and Examiner, we refer the reader to the Appellants' Briefs<sup>1</sup> and Examiner's Answer<sup>2</sup> for the respective details thereof.

### **OPINION**

With full consideration being given the subject matter on appeal, the Examiner's rejection and the arguments of Appellants and the Examiner, for the reasons stated **infra**, we will reverse the Examiner's rejection of claims 1-8 under 35 U.S.C. § 103(a) as being unpatentable over the combinations of the admitted prior art, Hobbins and Shetty.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The Examiner can satisfy this burden only by showing some objective teaching in the prior

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<sup>1</sup>Appellants filed a Brief on July 20, 1998. Appellants subsequently filed a Reply Brief on February 1, 1999.

<sup>2</sup>The Examiner, in response to Appellants' Brief, mailed an Examiner's Answer on November 23, 1998.

art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. ***In re Fine***, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598. Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. ***Oetiker***, 977 F.2d at 1445, 24 USPQ2d at 1444. ***See also In re Piasecki***, 745 F.2d 1468, 1472, 223 USPQ 785, 788 ("After a ***prima facie*** case of obviousness has been established, the burden of going forward shifts to the applicant."). If the Examiner fails to establish a ***prima facie*** case, the rejection is improper and accordingly merits reversal. ***Fine***, 837 F.2d at 1074, 5 USPQ2d at 1598.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. ***See Oetiker***, 977 F.2d at 1445, 24 USPQ2d at 1444 ("In reviewing the examiner's decision on appeal, the Board must necessarily weigh all of the evidence and argument."). Accordingly, we now consider the claims on appeal.

Appellants first point out that Appellants' admitted prior art describes the disadvantages associated with the prior art and Appellants' claims clearly distinguish over this prior art. Brief at page 4. Next, Appellants summarize that the Hobbins reference describes the use of ultrasonic welding to attach a wire screen over an entire display, the display being a CRT video display unit. Brief at page 4. Finally, Appellants assert that the Shetty reference is non-analogous art but acknowledge its purpose for illustrating the "alleged interchangeability of various welding methods." Brief at page 5, lines 1-3. Appellants conclude that the prior art can disclose no more than the use of a wire screen over an entire LED display, the use of a wire screen over an entire CRT display, and the interchangeability of various welding methods in a non-analogous field of art. Brief at page 5.

In response, the Examiner summarizes that Hobbins teaches to weld a woven wire screen, or mesh, having a matrix of small openings directly to the surface of a display device to provide an EMI shielded face plate. Examiner's Answer at page 4. Therefore, the Examiner concludes that it would have been obvious to use one piece or a plurality of small pieces of

wire mesh to cover the entire screen since it merely depends on the size of the screen, the size of the wire mesh, and the availability of the screen mesh in the market. Examiner's Answer at page 5.

We find that Appellants' admitted prior art discloses that "it is known to use a wire screen placed directly in front of an LED display in order to enhance the contrast of the displayed image and to reduce glare." Specification, page 1, lines 8-10. Additionally, Appellants' admitted prior art states that "[i]n the prior art, the installation of the screen is done after the plurality of module block LED arrays have been arranged into a large display and a single large piece of wire screen is fastened to the entire display." Specification, page 1, lines 19-22. Clearly, Appellants' admitted prior art consisting of a large display and a single large piece of wire screen does not teach the claim limitations of "substantially each of said module block LED arrays including a respective individual wire screen attached to said selected face immediately over said at least one LED."

Turning to Hobbins, we find that Hobbins supports the teaching of a wire screen attached across the surface of a cathode ray tube (CRT) and we reference these specific cites from Hobbins. Hobbins at column 5, lines 5-7, provides:

A conductive screen 22 is provided which has a larger extent than the viewing area of cathode ray tube 16. Conductive screen 22 is then placed firmly and tautly over the viewing surface of the cathode ray tube 16.

Hobbins, at column 5, lines 18-21, provides:

In one embodiment of this invention, conductive adhesive or glue is applied to that portion of conductive screen 22 which is contained within [the] groove.

Finally, Hobbins, column 3, lines 26-32, states:

In the preferred embodiment, conductive screen 22 is a woven wire mesh which readily allows passage of the image projected onto the face 16A of CRT 16 therethrough. In the most preferred embodiment, conductive screen 22 is a woven wire mesh comprising a matrix of small openings having a diameter of approximately one thousandth of inch.

But, we do not find that Hobbins teaches an LED array. Hobbins teaches the use of a video display and specifically, a CRT unit. Even if we were to analogize the CRT to an LED array, Hobbins teaches only one CRT, and Appellants' claim language plainly requires "a plurality of module block LED arrays." We do not find that Hobbins teaches or otherwise



suggests a plurality of module block LED arrays. Moreover, we find no teaching in the admitted prior art or in Hobbins that would lead one of ordinary skill in the art to combine the admitted prior art and Hobbins.

Further, our analysis of the Shetty reference reveals that Shetty also does not teach or suggest the required claim limitation of "a plurality of module block LED arrays." Shetty was used to reject claim 5 and teaches that welding processes of a metal mesh includes ultrasonic bonding (Shetty, col. 1, lines 44-52). However, Shetty alone, or in combination with Hobbins and the admitted prior art, does not satisfy all the required limitations of claim 5.

Therefore, based on the foregoing, we conclude that the Examiner has failed to establish a ***prima facie*** case of unpatentability under 35 U.S.C. § 103 with respect to claims 1-8.

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Accordingly, we reverse the Examiner's rejection of claims 1-4 and 6-8 as unpatentable over Appellants' admitted prior art, Hobbins and Shetty and the Examiner's rejection of claim 5 as unpatentable over Appellants' admitted prior art, Hobbins and Shetty.

***REVERSED***

MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	
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JOSEPH F. RUGGIERO	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
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HOWARD B. BLANKENSHIP	)	
Administrative Patent Judge	)	

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